AIR FORCE SCIENCE AND TECHNOLOGY FOR THE 21ST CENTURY ACT

HON. TONY P. HALL

OF OHIO

IN THE HOUSE OF REPRESENTATIVES

Wednesday, October 18, 2000

Mr. HALL of Ohio. Mr. Speaker, today I am introducing the Air Force Science and Technology for the 21st Century Act, a bill to strengthen the Science and Technology (S&T) program of the U.S. Air Force.

Today, the Air Force S&T program is a shadow of what it once was. Spending has been slashed from its high water mark a decade ago. Research focus has shifted from long-term topics with the potential for revolutionary advances to projects that have only short-term, incremental payoff. Morale among scientists in the Air Force Research Laboratory is down as a result of layoffs, budget cuts, and an uncertain future for the S&T program. In recent years, we've seen a pattern where research programs are funded, then cut by the Air Force, then restored by Congress. This roller coaster trend results in inefficiency and loss of continuity.

The decline has begun to set off alarm bells outside the Air Force. Earlier this year, the Air Force Association—one of the Air Force's strongest allies—issued a blistering report, concluding that by not treating research and development as a high priority, the Air Force has ''shortchanged the nation's future military-technological edge'' which ''could cost the nation dearly on future battlefields.'' Last month, a coalition representing one million scientists and engineers warned that the ''chronic decline in Federal funding going to aeronautics research,'' including Pentagon spending, could result in a ''catastrophic loss.''

Prodding by Congress apparently has failed to move scientific research to a higher Air Force priority. In 1998, Congress passed a resolution urging an increase in the science and technology budget of the Defense Department by 2 percent (adjusted for inflation). When the Air Force refused to comply, I offered legislation the following year repeating the request, singling out the Air Force for jeopardizing the stability of the defense science and technology base. Though the legislation was enacted into law, the Air Force still failed to meet the standard in this year's budget request (using last year's appropriated level for S&T funding as the baseline).

Even guidance within the Defense Department hasn't shaken the Air Force's determination to siphon off scientific research funds for other purposes. The Director of Defense Research and Engineering (DDR&E) issued guidelines for supporting S&T funding which the Air Force did not follow. The Air Force also ignored Defense Science Board recommendations to maintain a viable science and technology program by halting cuts and stabilizing the annual budgets.

What this means is that in a world of increasingly uncertain threats, the Air Force weapons systems of the future may not give us the technological edge that the tomorrow's warfighter will need. Many of the Air Force technologies that have played starring roles in recent conflicts are the result of science and technology investments made 20 or more years ago. A few of these technologies include stealth aircraft, the Global Positioning System (GPS), night vision devices, and guided munitions (smart bombs). If the Air Force of the 1960s and 1970s had followed the same direction as today's Air Force, some of these technologies would not be available today.

The Air Force was established by leaders who recognized that a long-term commitment to science and technology was the key to maintaining air supremacy in warfare. While technology is important to all the services, it is uniquely critical to the Air Force's mission. The Army and the Navy strategies for winning a war rely on mass and troop numbers. The Air Force strategy, as shown in recent conflicts, relies on massing warfighting effects by exploiting technological advantage. However, beginning in the late 1980s, organizational changes within the Department of Defense and the Air Force had the inadvertent effect of reducing the influence of scientists and their advocates in shaping Air Force policy.

In 1986, Congress passed the Goldwater-Nichols Department of Defense Reorganization Act, which mandated sweeping and impressive improvements in the planning, organization and responsiveness of the military services. In response to the requirements of the Act, the Air Force—unlike the other services—relegated key science positions to lower levels within the organization.

Prior to Goldwater-Nichols, the top advocate for science under the Secretary of the Air Force was the Assistant Secretary for Research, Development, and Logistics. Subsequently, the equivalent slot became the Deputy Assistant Secretary for Science, Technology, and Engineering, buried deeper in the bureaucracy. Prior to Goldwater-Nichols, a Deputy Chief of Staff for Development, Research, and Acquisition—with the rank of Lieutenant General (3-star)—reported to the Chief of Staff. That position was eliminated after Goldwater-Nichols.

Another major organizational change occurred when Air Force Systems Command (AFSC) was abolished in 1992 and its functions were merged with Air Force Logistics Command (AFLC). AFSC, headed by a general officer (4-star), had been responsible for supporting science, technology, research, and development. The new merged organization, Air Force Materiel Command (AFMC), had far more duties. Since then, the AFMC commanders have not been as forceful advocates for science and acquisition issues as the AFSC commanders had been.

As a result of these changes, when high level Air Force decisions are made there is no one at the table who has an intimate knowledge of scientific research and whose principal mission includes defending science and technology. As the Air Force Association reported, ''The focus of the major commands, and that of Air Force headquarters, is apparently now on near-term payoff and relevance to the existing mission. There is no countervailing Air Force entity arguing for long-term investment and long-term payoff.''

The most observable consequence of these organizational changes is plummeting science and technology funding as the advocates of other Air Force needs divide up the budget pie first. In 1989, the Air Force spent almost $2.7 billion on science and technology (in fiscal year 2000 constant dollars). In fiscal year 2001, the Air Force proposed spending under $1.3 billion, a drop of 55 percent. Though some decline in science and technology might be expected due to the defense draw down of recent years, this does not justify the dramatic drop in Air force S&T funding. During that same period, the Army cut its science and technology budget by only 20 percent, and the Navy actually made a substantial increase.

These numbers do not tell the full story of the Air Force's efforts to divert S&T dollars for higher priorities. In the late 1990s, internal Air Force budget planning documents proposed much deeper reductions. However, DDR&E forced the Air Force to submit higher numbers and Congress increased the funding levels even more.

There are other more subtle effects of a reduced Air Force priority on science and technology that do not show up in the S&T budget figures. More and more, the Air Force Research Laboratory devotes resources to short-term engineering projects tied to enhancing current weapons systems instead of long-term science topics with the potential for dramatic results. For example, last year the Air Force tried to eliminate the hypersonics (high-speed aircraft) program because it had no direct weapon system application even though it had significant military application in the future. Congress overruled the Air Force and restored the funding.

Other signs of a lower priority for science and technology include fewer advanced technical degrees among officers and civilians, layoffs in the Air Force Research Laboratory, and reduced support for the Air Force's graduate school of engineering, the Air Force Institute of Technology (which the Air Force tried to abolish a few years ago). A 1999 Air Force report titled ''Science and Technology Workforce for the 21st Century'' noted, ''There is a problem with the [Air Force Research Laboratory] being underappreciated in what it accomplishes and has provided to the force'' and that this is ''particularly true at the highest levels of Air Force leadership.''

The consequence of a lower priority on science and technology will not show up for many years, but it will certainly have a devastating effect on the future capabilities of the Air Force. With an ever smaller force and a desire by Americans to keep their military personnel out of direct danger, a reliance on technological superiority is a requirement that will only grow in importance.

Merely restoring a robust funding level to science and technology is not enough without a commitment by the Air Force to maintain stable support for the programs. In the last two years, Congress restored many of the Air Force's S&T cuts. However, the action was completed late in the budget process after already disrupting programs, delaying contracts, and reducing morale. Also, by that time, the Air Force was well into the process for the following budget year with new damaging cuts, and the cycle was repeated.

Further, accounting gimmicks can be used to mask real cuts while maintaining the fiction of stable funding. For example, in the fiscal

year 2000 budget request, the Air Force cut about $90 million in applied research. Because of a controversial budget scoring decision the overall top line of the S&T account showed only a slight decline.

Institutional support for S&T is required to deal with the hiring and retention issues that are particularly challenging to the technical workforce within the laboratory. An understanding of the need for long-term science is critical to targeting research areas that will ultimately result in the strongest national defense. For all of these reasons, maintaining or even increasing the S&T top line without increasing the commitment to the S&T program from the Air Force leadership would be a hollow victory.

As a result of outside pressure, the Air Force submitted an S&T budget for fiscal year 2001 that reflected a modest gain over the slim proposal it submitted the year before (though significantly below the level appropriated by Congress the year before). Still, the projected budget for the next five years shows a continued downward drift in funding levels (adjusted for inflation).

Congress, unfortunately, cannot mandate a change in the corporate culture of the Air Force. As I have explained, we cannot fix the basic problem through the annual funding process. Since the problem has its roots in legislative and administrative organizational action, I am proposing a series of organizational changes to correct it.

The bill I am introducing, the Air Force Science and Technology for the 21st Century Act, establishes an Office of Air Force Research within the office of the Secretary of the Air Force. This will give a clear line of responsibility for the development and implementation of Air Force science policy and ensure that the S&T program has visibility at the level of the Secretary of the Air Force. Also, it requires that the program be managed by a major general (2-star). The current head of the Air Force Research Laboratory is a brigadier general (1-star).

The bill also establishes the Air Force Science and Technology Policy Council chaired by the Vice Chief of Staff of the Air Force. The purpose of the Council is to aid the Air Force in prioritizing research needs against operational and acquisition needs and provide the senior level endorsement of the Science and Technology program that is so desperately needed to maintain the program as an Air Force priority. By adding scientific duties to the job of the Vice Chief of Staff, who is a general officer (4-star), the Air Force will be guaranteed a powerful science and technology advocate.

Finally, the bill provides statutory authority to the Air Force Scientific Advisory Board, a panel of 15 civilians. This provision is intended to strengthen the board's independence and tie it directly to the Air Force Secretary and the Director of Air Force Research.

My proposal is intended to create an organizational structure that will permit excellence and not stifle it. The legislation is based on the best ideas and thoughtful recommendations of current and former Air Force and Department of Defense military and civilian technologies and industry specialists. All three of the recommended changes are similar to the successful model instituted by the Navy for science and technology.

We cannot go back to the days before the Goldwater-Nichols Act and the era of AFSC. However, the modest changes I am proposing might re-create some of the earlier features of Air Force organization that made the Air Force the technological powerhouse that it once was.

Near the close of World War II, General Henry H. ''Hap'' Arnold, the ''father'' of the Air Force, remarked, ''For twenty years the Air Force was built around pilots and more pilots. The next Air Force will be built around scientists.'' The vision of General Arnold and the founders of the modern Air Force has been proven in battle time and time again. Unless we can restore that vision to the Air Force of the future, we will lose the technological magic that so much sets our fighting forces above all others. That is a vision we cannot afford to lose.

H.R. —

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Air Force Science and Technology for the 21st Century Act''.

SEC. 2. OFFICE OF AIR FORCE RESEARCH.

(a) IN GENERAL.—(1) Chapter 803 of title 10, United States Code, is amended by adding at the end the following new sections:

''§ 8023. Office of Air Force Research

''(a)(1) There is in the Office of the Secretary of the Air Force an Office of Air Force Research, at the head of which is a Director of Air Force Research.

''(2) Subject to the authority, direction, and control of the Secretary of the Air Force, the Director of Air Force Research serves as—

''(A) the principal advisor to the Secretary of the Air Force on all research matters;

''(B) the principal advisor to the Chief of Staff of the Air Force on all research matters; and

''(C) the principal Air Force representative on research matters to other Government, academic, scientific, and corporate agencies.

''(3) Unless appointed to higher grade under another provision of law, an officer, while serving as Director of Air Force Research, has the grade of major general.

''(b)(1) There is a Deputy Director of Air Force Research, who shall be an employee in the Senior Executive Service and shall be located at and assigned to a major laboratory or field installation.

''(2) Subject to the authority, direction, and control of the Director of Air Force Research, the Deputy Director of Air Force Research is—

''(A) responsible for the execution of the Air Force Research Laboratory technical program; and

''(B) responsible for operational aspects of the Air Force Research Laboratory.

''(c) The Office of Air Force Research shall perform such duties as the Secretary of the Air Force prescribes relating to—

''(1) the encouragement, promotion, planning, initiation, and coordination of Air Force research;

''(2) the conduct of Air Force research in augmentation of and in conjunction with the research and development conducted by the bureaus and other agencies and offices of the Department of the Air Force; and

''(3) the supervision, administration, and control of activities within or for the Department relating to patents, inventions, trademarks, copyrights, and royalty payments, and matters connected therewith.

''(d) Subject to the authority, direction, and control of the Secretary of the Air Force, the Director of Air Force Research shall ensure that the management and conduct of the science and technology programs of the Air Force are carried out in a manner that will foster the transition of science and technology to higher levels of research, development, test, and evaluation.

''(e) Sufficient information relative to estimates of appropriations for research by the several bureaus and offices shall be furnished to the Office of Air Force Research to assist it in coordinating Air Force research and carrying out its other duties.

''(f) The Office of Air Force Research shall perform its duties under the authority of the Secretary, and its orders are considered as coming from the Secretary.

''§ 8024. Air Force Science and Technology Policy Council

''(a) There is in the Department of the Air Force a Science and Technology Policy Council consisting of—

''(1) the Vice Chief of Staff of the Air Force, as chairman, with the power of decision;

''(2) the Assistant Secretary of the Air Force with responsibilities for acquisition;

''(3) the Director of Air Force Research;

''(4) the commander of the Air Force Materiel Command; and

''(5) The Deputy Chief of Staff of the Air Force with responsibilities for installations.

''(b) The responsibilities of the Council include the following:

''(1) To advise the Secretary of the Air Force and the Chief of Staff of the Air Force on matters of broad policy and budget relating to the Air Force science and technology program.

''(2) To identify, set priorities among, and endorse future Air Force technological capabilities.

''(3) To oversee and review major science and technology programs as they relate to meeting capabilities identified pursuant to paragraph (2).

''(4) To determine the appropriate balance between programs for the purpose of meeting requirements and programs for the purpose of pursuing long-term technologies.

''(5) To identify, set priorities among, and endorse planning and budgeting for the transition of science and technology to higher levels of research, development, test, and evaluation.

''(c) Subject to the approval of the Secretary of the Air Force, the Council shall appoint, from among personnel of the Department of the Air Force, a staff to assist the Council in carrying out its responsibilities.

''§ 8025. Air Force Scientific Advisory Board

''(a) The Secretary of the Air Force may appoint an Air Force Scientific Advisory Board consisting of not more than 15 civilians preeminent in the fields of science, research, and development work. Each member serves for such term as the Secretary specifies.

''(b) The Board shall meet at such times as the Secretary specifies to consult with and advise the Chief of Staff of the Air Force and the Director of Air Force Research.

''(c) No law imposing restrictions, requirements, or penalties in relation to the employment of persons, the performance of services, or the payment or receipt of compensation in connection with any claim, proceeding, or matter involving the United

States applies to members of the Board solely by reason of their membership on the Board.''.

(2) The table of sections at the beginning of such chapter is amended by adding at the end the following new items:

''8023. Office of Air Force Research.
''8024. Air Force Science and Technology Policy Council.
''8025. Air Force Scientific Advisory Board.''.

(b) CONFORMING AMENDMENT.—Section 8014(b) of title 10, United States Code, is amended—

(1) by redesignating paragraph (6) as paragraph (7); and

(2) by inserting after paragraph (5) the following new paragraph:

''(6) The Director of Air Force Research.''.

CONTINUED PARTICIPATION OF RUSSIA IN THE GROUP OF EIGHT (G 8) MUST BE CONDITIONED ON RUSSIA'S ADHERENCE TO THE NORMS AND STANDARDS OF DEMOCRACY—H. CON. RES. 425

HON. TOM LANTOS

OF CALIFORNIA

IN THE HOUSE OF REPRESENTATIVES

Wednesday, October 18, 2000

Mr. LANTOS. Mr. Speaker, last Thursday with some of our distinguished Republican and Democratic colleagues, I introduced House Concurrent Resolution 425 which expresses the sense of the Congress that continued participation by the Russian Federation in the Group of Eight (G 8) must be conditioned on Russia's own voluntary acceptance of and adherence to the norms and standards of democracy. Let me give some background on this resolution, indicate the need for it, and discuss our hope about what it will achieve.

In 1991, Mr. Speaker, after the collapse of the Soviet Union, the Group of Seven (G 7)—the key democratic industrialized nations of this world, which are the United States, the United Kingdom, Germany, France, Italy, Canada and Japan—invited the president of the new Russia, Boris Yeltsin, to attend meetings with the leaders of the G 7, the President of the United States and his counterparts. This invitation for President Yeltsin to meet with the G 7 following the formal conclusion of the meeting, was a down payment on our expectation that Russia would develop in a democratic way.

After several years of informal Russian participation at meetings following the formal meetings of the G 7, in 1998 Russia was officially invited to become a member of the expanded G 7, which was renamed the G 8. So for the last few years, the seven leading industrial democracies of the world opened up their very exclusive club to Russia in anticipation that democratic tendencies and developments will grow in Russia, and that Russia will take what we hope will be its rightful place as one of the great industrial democracies of the world.

We realized, of course Mr. Speaker, that economically it will take a long time for Russia to become a significant power. At present Russian gross domestic product (GDP) is about the same as that of Belgium. It certainly cannot be argued that the economic state of Russia qualifies it for membership in the G 8, but our hope for democratic developments in Russia gave us the justification for continued membership by Russia in the G 8.

Mr. Speaker, recent very disturbing trends in Russia with respect to press freedom and a number of other issues, such as the war in Chechnya, have raised very severe doubts concerning democratic development in that country. The handling of the submarine tragedy, where the Russian Government reverted to the worst practices of the former Soviet Union, and the handling of the fire at the television tower, where, incredibly, it took President Putin's approval to cut power to the television tower as the fire was raging, raised some very serious questions with respect to the democratic direction that the new Russian Government is taking.

Our resolution—which is cosponsored by the Chairman of the Helsinki Commission, our Republican colleague Mr. CHRIS SMITH of New Jersey; the Chairman of the House International Relations Committee, Mr. GILMAN of New York; a senior Democratic member of the International Relations Committee, Mr. BERMAN of California—is designed to hoist the flag of caution to Mr. Putin's government. Our resolution indicates that while we are anxious and eager to build good and cooperative relations with Russia along the full spectrum of issues, we simply cannot countenance continued Russian participation as a member of the G 8 as long as there are blatant attacks on press freedom and other actions that undermine democracy.

Mr. Speaker, it will take a long time to build democracy in Russia, but one of the very few encouraging signs of the last decade in Russia was the presence of a free press. Political leaders clearly do not like to be criticized and Mr. Putin does not like to be criticized, but if the Russian President wishes to be the head of a democratic country, not a newly totalitarian Russia, he will have to get accustomed to the fact that criticism is part and parcel of political leadership in democratic societies.

Mr. Speaker, we are hoping that Mr. Putin's regime will put an end to the persecution and harassment of whatever is left of the free media in Russia. If that happens, we will be pleased to see continued Russian participation in the G 8. But if the Russian government's onslaught on the free media continues, I am certain that the vast majority of my colleagues, will join us in saying that Russia should no longer belong to the G 8.

It is my understanding that some of the leaders on the Senate Foreign Relations Committee are contemplating the introduction of parallel legislation. We are very pleased to see this because the Congress of the United States will speak with a unified voice on this issue.

Mr. Speaker, I ask that the full text of House Concurrent Resolution 425 be placed in The RECORD, and I urge my colleagues to join as cosponsors of this legislation.

H. Con. Res. 425

Expressing the sense of the Congress that the continued participation of the Russian Federation in the Group of Eight must be conditioned on Russia's own voluntary acceptance of and adherence to the norms and standards of democracy.

Whereas in 1991 and subsequent years the leaders of the Group of Seven (''G 7''), the forum of the heads of state or heads of government of the major free-market economies of the world which meet annually in a summit meeting, invited Russia to a post-summit dialogue, and in 1998 the leaders of the Group of Seven formally invited Russia to participate in an annual gathering that thereafter became known as the Group of Eight ('G 8'), although the Group of Seven have continued to hold informal summit meetings and ministerial meetings that do not include Russia;

Whereas the invitation to President Yeltsin of Russia to participate in these annual summits was in recognition of his commitment to democratization and economic liberalization, despite the fact that the Russian economy has been weak and its commitment to democratic principles has been uncertain;

Whereas those countries which are members of the Group of Seven are pluralistic democratic societies with democratic political institutions and practices, and they have committed themselves to the observance of universally recognized standards of human rights, respect for individual liberties and democratic political practices;

Whereas a free news media and freedom of speech are fundamental to the functioning of a democratic society and essential for the protection of individual liberties, and such freedoms can exist only in an environment that is free of state control of the news media, that is free of any form of state censorship or official coercion of any kind, and that is protected and guaranteed by the rule of law;

Whereas the Russian Federation has engaged in a series of government actions that are hostile and threatening to privately-owned, independently operated media enterprises, particularly those new outlets that have been critical of government policies and government actions; and

Whereas the continued participation of the Russian Federation in the Group of Eight must be conditioned on Russia's own voluntary acceptance of and adherence to the norms and standards of democracy;

Now, therefore, be it *Resolved by the House of Representatives (the Senate concurring),* That it is the sense of the Congress that the participation of the Russian Federation in the Group of Eight must be linked to the Russian Federation's adherence to the norms and standards of democracy, including:

(1) the existence of a free, unfettered press that fosters the development of an independent media and the free exchange of ideas and views, including opportunities for private ownership of media enterprises, the right of people to receive news without government interference and harassment, and the freedom of journalists to publish opinions and news reports without fear of censorship or punishment;

(2) the freedom of all religious groups freely to practice their faith in Russia, without undue government interference on the rights and the peaceful activities of such religious organizations;

(3) equal treatment and respect for the human rights and the right to own private